BIAMP™

MPA250
Multi-Purpose Amplifier

Operation Manual

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INTRODUCTION

MPA250 single-channel, multi-purpose amplifiers deliver a full 250 Watts of power into direct or distributed speaker systems. The MPA250 is designed for reliable service in permanent installations, and comes complete with short-circuit and thermal protection, including front/rear panel indicators and automatic reset. Plug-in barrier strip input and screw terminal outputs provide trouble-free, dependable connections. MPA250 amplifiers are UL listed and carry Biamp's five-year warranty.

MPA250 features include:

- 250 watts at all outputs (4W direct & transformer)
- internal transformer (8W, 70V, 25V, & 25V-CT outputs)
- signal/peak & temp/fault indicators on front & rear panels
- balanced/unbalanced input selector on rear panel
- level control & input sensitivity selector on rear panel
- high-pass filter selector on rear panel (12dB/oct. @ 125Hz)
- input on plug-in barrier - outputs on screw terminals
- complete speaker, short-circuit, & thermal protection
- variable speed fan (quiet, reliable - no filter maintenance)
- incorporates **AES** recommended grounding practices
- covered by Biamp Systems' five-year warranty
- **UL** / **C-UL** listed

IMPORTANT SAFETY INFORMATION

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with a dry cloth.

Do not block any of the ventilation openings.

Install in accordance with the manufacturers instructions.

WARNING - To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

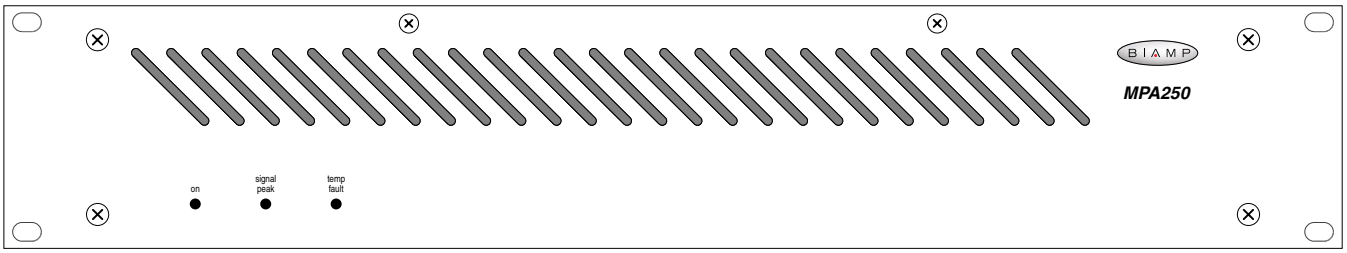
Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Explanation of safety related markings and symbols which appear on the outside of the apparatus.

Lightning Bolt: Hazardous Live voltages present when this unit is in operation. Do not touch terminals marked with this symbol while the unit is connected to live power.

Exclamation Point: Replace components (i.e. fuses) only with the values specified by the manufacturer. Failure to do so will compromise safe operation of this unit.

FRONT PANEL

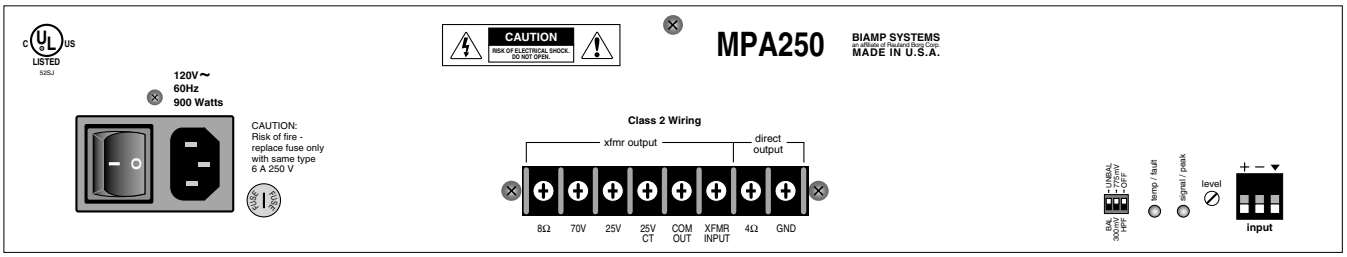


On Indicator: This green LED remains lit when AC power is applied to the unit.

Signal / Peak Indicator: This 2-color LED indicates the signal level for the amplifier. When the LED is green, the amplifier has signal (above -30dB). When the LED is red, the amplifier signal is clipping (max. power). ***CAUTION:*** *Signal levels should be adjusted to avoid clipping. Clipping can cause severe distortion, over-temperature conditions, and even loudspeaker damage.* ***NOTE:*** *Signal / Peak indicators will turn off during Temp / Fault conditions (see Temp / Fault Indicators below).* This indicator also appears on the rear panel.

Temp / Fault Indicator: This red LED indicates over-temperature and output fault conditions for the amplifier. When the LED remains lit, the amplifier has an over-temperature condition. When the LED is flashing, the amplifier has an output fault condition. Either condition will temporarily de-activate the amplifier, causing the Signal / Peak LED to turn off as well. The amplifier will attempt to self-reset once the over-temperature or output fault condition is resolved. This indicator also appears on the rear panel. ***CAUTION:*** *The MPA250 is cooled by a variable speed fan, which exhausts warm air from the left side panel. To allow proper ventilation, an un-obstructed clearance of at least 0.75" must be maintained along the left side panel of the MPA250.*

REAR PANEL



Input: This plug-in barrier strip provides the line-level input to the amplifier. For unbalanced input, wire high (+) and ground (▾). For balanced input, wire high (+), low (-), and ground (▾). ***NOTE:*** *The UNBAL / BAL switch must be in the appropriate position (see below).*

Level: This screw-driver adjustable control determines the level of input signals allowed into the amplifier. Level provides a gain range from 'off' (min.) to 'unity' (max.). The Level control is factory set for -20dB of gain, which will produce maximum output power with input signal peaks of +20dBu. For best performance, first adjust the source signals for optimum (maximum) levels, then adjust the amplifier Level control for the desired volume.

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HPF Switch: This DIP switch provides a High-Pass Filter for the amplifier input. The High-Pass Filter is used to eliminate unnecessary lower frequencies (12dB/octave @ 125Hz) for speech and distributed speaker applications. From the factory, the High-Pass Filter is enabled (switch down). To disable the High-Pass Filter, move the switch to the up position. ***CAUTION:*** *To avoid output fault conditions, the High-Pass Filter must be enabled when driving 25/70 Volt speaker systems (see Output below). Also, any other system equalization affecting frequencies below 125 Hz should remain flat or be used as cut-only.*

775mV / 300mV Switch: This DIP switch selects 0.775Vrms (-0dBu) or 0.3Vrms (-8dBu) as input sensitivity for the amplifier. From the factory, input sensitivity is set for 775mV (switch up). Use the 775mV setting for 'professional' line-level input signals (such as from an audio mixer or processor), or use the 300mV setting for 'consumer' line-level signals (such as from a CD player or tape deck).

UNBAL / BAL Switch: This DIP switch selects unbalanced or balanced input connection. From the factory, input connection is set for UNBAL (switch up). Use UNBAL for 2-conductor connections, and use BAL for 3-wire connections (see Input above).

Output: These screw terminals provide the speaker outputs from the amplifier. From the factory, a jumper wire is installed from the 4Ω terminal (direct output) to the XFMR INPUT terminal. For transformer (xfmr) output, connect speaker negative to the COM OUT terminal, and connect speaker positive to the appropriate transformer output terminal (8Ω for an 8 ohm speaker load; 70V for a 70 Volt distributed speaker system; 25V for a 25 Volt distributed speaker system). For 'balanced' 25V speaker systems, connections are the same as above, plus a ground connection (center-tap) made to the 25V CT terminal. For direct output from the amplifier, first remove the factory installed jumper wire, then connect speaker negative to the GND terminal, and connect speaker positive to the 4Ω terminal.

AC Power Entrance: The switch applies AC power to the unit. The receptacle accepts the detachable AC Power Cord. The AC Power Cord is for connection to three-prong grounded AC outlets. ***CAUTION:*** *Do not remove or defeat the ground prong on the AC Power Cord, as this constitutes a shock hazard.*

Fuse: Replace Fuse with same type and value only (6 A 250 V). ***NOTE:*** *If the Fuse continues to blow, the amplifier may require service.*

SPECIFICATIONS

Continuous Power (4 ohm direct & transformer outputs)**:**	250 watts
Signal-to-Noise Ratio (20Hz~20kHz)**:**	
referenced to 250 watts into 4 ohm direct output	> 90dB
Total Harmonic Distortion:	
20Hz~20kHz @ 250 watts into 4 ohm direct output	< 0.2%
100Hz~15kHz @ 250 watts at transformer outputs	< 1.0%
Intermodulation Distortion (SMPTE)**:**	< 0.35%
Frequency Response (20Hz~20kHz)**:**	+0/-1dB
Input Impedance:	
balanced	20k ohms
unbalanced	10k ohms
Input Sensitivity (selectable)**:**	775mV / 300mV
Power Requirements:	120VAC @ 60Hz
Power Consumption:	900 watts
Dimensions (H x W x D)**:**	3.5" x 19" x 8.5" (89 x 483 x 216mm)
Weight:	23 lbs. (10.5kg)

WARRANTY

BIAMP SYSTEMS IS PLEASED TO EXTEND THE FOLLOWING 5-YEAR LIMITED WARRANTY TO THE ORIGINAL PURCHASER OF THE PROFESSIONAL SOUND EQUIPMENT DESCRIBED IN THIS MANUAL.

BIAMP Systems expressly warrants this product to be free from defects in material and workmanship for a period of 5 YEARS from the date of purchase as a new product from an authorized BIAMP Systems dealer under the following conditions.

1. In the event the warranted BIAMP Systems product requires service during the warranty period, BIAMP Systems will repair or replace, at its option, defective materials, provided you have identified yourself as the original purchaser of the product to any authorized BIAMP Systems Service Center. Transportation and insurance charges to and from an authorized Service Center or the BIAMP Systems factory for warranted products or components thereof to obtain repairs shall be the responsibility of the purchaser.

2. This warranty will be VOIDED if the serial number has been removed or defaced; or if the product has been subjected to accidental damage, abuse, rental usage, alterations, or attempted repair by any person not authorized by BIAMP Systems to make repairs; or if the product has been installed contrary to BIAMP Systems's recommendations.

3. Electro-mechanical fans, electrolytic capacitors, and the normal wear and tear of appearance items such as paint, knobs, handles, and covers are not covered under this warranty.

4. BIAMP SYSTEMS SHALL NOT IN ANY EVENT BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, LOSS OF USE, PROPERTY DAMAGE, INJURY TO GOODWILL, OR OTHER ECONOMIC LOSS OF ANY SORT. EXCEPT AS EXPRESSLY PROVIDED HEREIN, BIAMP SYSTEMS DISCLAIMS ALL OTHER LIABILITY TO PURCHASER OR ANY OTHER PERSONS ARISING OUT OF USE OR PERFORMANCE OF THE PRODUCT, INCLUDING LIABILITY FOR NEGLIGENCE OR STRICT LIABILITY IN TORT.

5. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. BIAMP SYSTEMS EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE REMEDIES SET FORTH HEREIN SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES WITH RESPECT TO ANY DEFECTIVE PRODUCT. THE AGENTS, EMPLOYEES, DISTRIBUTORS, AND DEALERS OF BIAMP SYSTEMS ARE NOT AUTHORIZED TO MODIFY THIS WARRANTY OR TO MAKE ADDITIONAL WARRANTIES BINDING ON BIAMP SYSTEMS. ACCORDINGLY, ADDITIONAL STATEMENTS SUCH AS DEALER ADVERTISEMENTS OR REPRESENTATIONS DO NOT CONSTITUTE WARRANTIES BY BIAMP SYSTEMS.

6. No action for breach of this warranty may be commenced more than one year after the expiration of this warranty.

Thank you for purchasing BIAMP SYSTEMS...
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